TO: Ned, Frank, Lew, Ted

Amiga Chip Set Strategy - comments

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In this memo I've tried to collect my comments to Lew Eggebrechts 'Amiga chip set strategy' paper, and also add some thoughts and suggestions of my own.

Lews paper tries to identify improvements and costreductions to a AA "low end" system. The cost reductions are mainly achieved by better partitioning of the chips and by taking out features. Taking out features in not necessarily a bad idea, but careful consideration should be paid to the usefulness of the cost-redused part.

AA barely stacks up agains the standard SuperVGA adapters commonly available of modern PC. If we remove too many of AA most advanced features I'm afraid that a AA-lowcost isn't sufficient in 2 years, when our systems are ready.

If cost is the only driving factor, then most of the proposed changes propably makes sence. My comments and suggestions focuses on creating a "killer" games system that still would be competitive in 2 years.

Below I have outlined some of Lews proposed changes were I think that attention/market-research is needed:

1) Palet depth:

The paper proposes a 5 bit per gun architecture. I don't think that this is adequate. I suggest 6 bits. That would support the new 8 bit ham and compete directly with the current low-end of pc graphics (VGA). 8bit ham is VERY close to true color.

2) Sprites

Limit the sprite size to 32 bits.

This is not a good idea. Sprites are the most important graphics subsystem for games. Game systems like Super Nintendo have far superior sprite capabilities than we have.

Suggestion: 64 bit wide sprites and a new mode with 32 bit wide sprites in the double depth. That would allow 16 color simple sprites and 256 color attached sprites.

3) New I/O chip with serial, floppy contrl etc.

New hardware cannot under any cercumstances give 100% software compatibility as claimed in the document. New drivers will have to be developed for trackdisk, serial port etc.

Now a couple of suggestions:

1) Colors and resolution

On a game system colors are more important than resolution. I suggest taking out support for 35ns pixels as a cost-reduction.

2) Sound

No attention have been paied to sound. Good sound is very important for games. With the 2 and 4 times bandwith sound can be improved a lot. Examples

- 16 bit samples at current sample rate (requires 2x)
- 8 bit samples at 2 or 4 times sample rate. (4 times ~ CD rates).

3) Processing power

Games can use all the processing power they can get. An EC020 would be fantastic.

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